

CLAIMS

- 1 1. An integrated circuit, comprising:
2 a configurable logic array having a programmable configuration defined by
3 configuration data stored in electrically programmable configuration points within the
4 configurable logic array;
5 a programmable configuration memory, adapted to store the configuration data;
6 memory adapted to store instructions for a mission function for the integrated
7 circuit, and to store instructions for a configuration function used to transfer the
8 configuration data from the configuration memory to the programmable configuration
9 points within the configurable logic array; and
10 a processor coupled to the memory which fetches and executes instructions from
11 the memory.
- 1 2. The integrated circuit of claim 1, wherein said memory comprises a non-volatile
2 store.
- 1 3. The integrated circuit of claim 1, wherein said memory comprises a floating gate
2 memory store.
- 1 4. The integrated circuit of claim 1, wherein said memory comprises a read-only
2 memory store.
- 1 5. The integrated circuit of claim 1, wherein said memory comprises a first non-
2 volatile store for the configuration function, and a second store for the mission function.
- 1 6. The integrated circuit of claim 1, wherein said memory comprises a first volatile
2 store for the configuration function, and a second store for the mission function.
- 1 7. The integrated circuit of claim 1, including a watchdog timer coupled to the
2 processor, and wherein the configuration function includes using the watchdog timer.

1 8. The integrated circuit of claim 1, wherein the configuration function includes
2 loading the programmable configuration memory via an input port on the integrated
3 circuit.

1 9. The integrated circuit of claim 1, wherein the configuration function includes
2 receiving encrypted configuration data via an input port on the integrated circuit,
3 decrypting the configuration data, and loading the programmable configuration memory
4 with decrypted configuration data.

1 10. The integrated circuit of claim 1, wherein the configuration function includes
2 receiving compressed configuration data via an input port on the integrated circuit,
3 decompressing the configuration data, and loading the programmable configuration
4 memory with decompressed configuration data.

1 11. The integrated circuit of claim 1, wherein the programmable configuration
2 memory comprises a non-volatile store.

1 12. The integrated circuit of claim 1, wherein the programmable configuration
2 memory comprises a volatile store.

1 13. The integrated circuit of claim 1, wherein the electrically programmable
2 configuration points comprise non-volatile, charge programmable memory cells.

1 14. The integrated circuit of claim 1, wherein the configuration function includes
2 loading the programmable configuration memory via an input port on the integrated
3 circuit, and including:
4 an interface between the processor and the configuration memory supporting said
5 loading; and
6 an interface between the configuration memory and the configurable logic array
7 supporting said transfer of configuration data to the configurable logic array.

1 16. The integrated circuit of claim 1, wherein the configuration function includes
2 loading the programmable configuration memory via an input port on the integrated
3 circuit, and including:
4 an interface between the processor and the configuration memory supporting said
5 loading and said transfer of configuration data to the configurable logic array; and
6 an interface between the processor and the configurable logic array supporting
7 said transfer of configuration data to the configurable logic array.

1 17. The integrated circuit of claim 1, wherein the electrically programmable
2 configuration points comprise non-volatile, charge programmable memory cells.